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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/624,992 | 07/22/2003 | Hideaki Yamazaki | 501152.20018 | 8164 |

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EXAMINER

FAISON, VERONICA F

ART UNIT

PAPER NUMBER

1755

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/624,992

Applicant(s)

YAMAZAKI ET AL.

Examiner

Veronica F. Faison

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any claimed patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/09)
Paper No(s)/Mail Date ____.

4) ☐ Interview Summary (PTO-413)

Paper No(s)/Mail Date: ____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: ____.

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DETAILED ACTION

Claim Objections

Claim 1 is objected to because of the following informalities:

Applicant uses the word "type" appended to an otherwise definite phrase (i.e. self-dispersing type). It is the Examiner's opinion that the word "type" does not further definite the term. The Examiner suggests deleting the word "type".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 4, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gundlach et al (US Patent 6,264,731).

Gundlach et al teach an ink composition comprising water, a colorant, and 1,3,5 or tetraethylene glycol dimethyl ether (abstract and col. 13 lines 60+). The liquid vehicle of the ink composition may comprise water or a mixture of water and a water-soluble or water miscible organic component, such as 2-pyrrolidinone (col. 14 lines 32). The reference further teaches that the combination of 1,3,5-trioxane and tripropylene glycol monomethyl ether enable rapid penetration of the ink composition into recording substrates. The tripropylene glycol monomethyl ether is present in the amount of 2 to 25 percent by weight (col. 14 lines 51-65). The colorant may be a dye, pigment or mixture thereof (col. 15 lines 13-14). The reference discloses that pigment colorant may be either a self-dispersing pigment or pigment particles and a dispersant (col. 28 lines 37-42). The ink composition may be used in any suitable process, wherein the process incorporating the ink composition into an ink jet printing apparatus, which inherently has an ink cartridge, and causing droplets of the ink to be ejected in an imagewise pattern onto a recording sheet (col. 29 line 57-col. 30 line 8). The reference remains silent to the solubility of the glycol ether (i.e. tetraethylene glycol dimethyl ether), however it is the position of the Examiner that because the glycol ether is soluble in water that the solubility in water would be greater than 1 absence evidence to the contrary. Gundlach et al fail to specifically exemplify the use of self-dispersing pigment as claimed by applicant. Therefore, it would have been obvious to one of ordinary skill in the art to use a self-dispersing pigment as claimed by applicant as Gundlach et al also discloses the use of self-dispersing pigment but shows no example incorporating them.

Claims 1-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashiyama et al (US Patent 5,938,829) in view of Gundlach et al (6,264,731).

Higashiyama et al teach an ink composition comprising a water-soluble dye or pigment as a coloring agent, 5 to 15 percent by weight of polyvalent alcohol monoalkyl ether selected from the group consisting of tetraethylene glycol monoalkyl ethers and pentaethylene glycol monoalkyl ethers, 5 to 50 percent by weight polyvalent alcohol and pure water (abstract and col. 2 lines 18-52), wherein the ink composition is contained in an ink cartridge. The dye and/or pigment may be present in the amount of 1 to 20 percent by weight (col. 4 lines 37-38). The reference discloses that a wide variety of inorganic and organic pigments including pigments dispersed with a dispersing agent, pigments surface treated and graft carbon may be used in the ink composition (col. 3 lines 32-63). The tetraethylene glycol monoalkyl ether present in the ink composition may include tetraethylene glycol monobutyl ether, which is used for accelerating the penetrating speed of the ink (col. 4 line 62-col. 5 line 38). The reference remains silent to the solubility of the glycol ether (i.e. tetraethylene glycol monobutyl ether), however Applicant discloses on page 13 of the specification that tetraethylene glycol monobutyl ether has a solubility in water not less than 1. The reference fails to teach the use of a self-dispersing pigment.

Gundlach et al teach an ink composition comprising water, colorant, and 1,3,5-trioxane or tetraethylene glycol dimethyl ether, wherein the reference discloses that pigment colorant may be either a self-dispersing pigment or pigment particles and a dispersant (abstract and col. 28 lines 37-42).

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The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have replaced a pigment and dispersing agent with self-dispersing pigment because the substitution of art recognized equivalents as shown by Gundlach et al would have been within the level of ordinary skill in the art.

Conclusion

The remaining references listed on forms 892 have been reviewed by the Examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Veronica F. Faison whose telephone number is 571-272-1366. The examiner can normally be reached on Monday-Thursday and alternate Fridays 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on 571-272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Veronica F. Falson